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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,069	03/22/2005	Yong-Soo Park	LEE.018	2661

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EXAMINER	
IP, SIKYIN	

ART UNIT	PAPER NUMBER
1742	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/507,069

Applicant(s)

PARK ET AL.

Examiner

Sikyln Ip

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/13/07.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-17 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 5298093 to Okamoto (PTO-1449) in view of SU 1148893, USP 4735771 to Corwin, or WO01057280.

Okamoto discloses the features including duplex stainless steel composition (col. 2, lines 42-55), PREW value (col. 2, lines 57-61), ferritic and austenitic phases volume ratio (col. 8, lines 5-7). The difference between the reference(s) and the claims are as follows: Ba alloying element and solubility. However, SU 1148893 (abstract), Corwin (paragraph between col. 1-2; and col. 4, lines 19-28), or WO01057280 (paragraph bridging pages 3-4 and page 5, lines 10-30) discloses Ba among other oxide forming

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elements in the same field of endeavor or the analogous metallurgical art for improving machinability and oxide forming. Therefore, it would have been obvious to one having ordinary skill in the art of the cited references at the time the invention was made to provide Okamoto with Ba as taught by SU 1148893, Corwin, or WO01057280 because the set forth benefits and function entail the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties. It has been held that combining known ingredient having known functions, to provide a composition having the additive effect of each of the known functions is within realm of performance of ordinary skill artisan. In re Castner, 186 USPQ 213 (217). The use of conventional materials to perform their known functions in a conventional process is obvious. In re Raner, 134 USPQ 343 (CCPA 1962).

With respect to the solubility as recited in instant claims 5-7, that solubility is material property which would have been inherently possessed by the material of cited references. With respect to instant claim 13, that since the composition and duplex phases ratio of instant claimed are overlapped by alloy steel of Okamoto. The value as set forth in claim 13 would have been overlapped. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product.

In re Best, 195 USPQ, 430 and MPEP § 2112.01.

“Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO shows a sound basis for believing that the products of the applicant and the prior art

are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)."

Response to Arguments

Applicant's arguments filed July 13, 2007 have been fully considered but they are not persuasive.

~~treatment for 40 minutes at 860°C. However, the Okamoto reference does not disclose the case where a large-sized ingot and slab are hot-rolled, or a large-sized product is molten and cast. In such case, corrosion resistance and mechanical properties are~~

Applicants argue that "

First, none of instant claims recites "large-sized ingot" or "large-size product". Second, "large" is merely a relative term, which does not define any size. Third, none of the instant claims restricts formation of ~~precipitation of sigma (σ) and chi (χ) phases~~. Fourth, Okamoto teaches to control sigma – and similar phases (col. 2, lines 25-32).

Applicants argue that

~~to improve the hot workability of the steel by fixing sulfur or oxygen. The duplex stainless steel of the present invention has good hot workability in itself due to a low S content and the nature of W, which does not serve to accelerate the formation of σ - and similar phase although added in a large amount.~~

" But, W is not an

essential element in any of instant claims (see instant claims 1 and 4). Moreover, there is no factual evidence showing the claimed W content is critical and possesses unexpected result.

Applicants' argument as set forth in page 11, first two paragraphs of instant remarks is noted. But, it is unclear what factor increases production yield and how thick is the cast product?

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Applicants' argument with respect to SU 1148893 in instant remarks is noted. But, the fact that applicants have recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicants' argument with respect to Corwin is noted. First, none of the instant claims restricts formation of precipitation of sigma (σ) and chi (χ) phases. Second, Okamoto teaches to control sigma – and similar phases (col. 2, lines 25-32). Third, Corwin teaches to improve oxidation resistant of duplex stainless steel (col. 1, lines 5-11).

The WO 01/57280 reference is not directed to duplex stainless steel, but more particularly to grain refining alloy for steel. 'Grain Refining' means reducing sizes of grain of the steel matrix. The material is FeXY. X may be Cr, Mn, Si, Ni and Mo, and Y may be Ce, La, Nd, Pr, Ti, Al, Zr, Ca, Ba, Sr, Mg, C and N. Therefore, the basic compositions are quite different from the present application. ~~This material is added to~~ "

Applicants argue that "

Contrarily to applicants' argument, WO 2001057280 is directed to improve ferritic and austenitic steels (see page 1, lines 5-10).

Applicants' argument in paragraph bridging pages 15-16 of instant remarks is noted. But, the teaching REM of Okamoto does not exclude mischmetal.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121; 37 C.F.R. Part §41.37 (c)(1)(v); MPEP §714.02; and MPEP §2411.01(B).

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
September 17, 2007